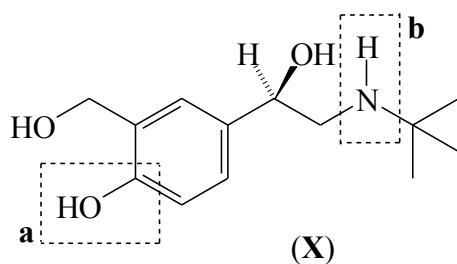


**Marks**  
**6**

- Salbutamol (**X**) is the active ingredient in the asthma treatment Ventolin™. Although the drug is marketed as a racemic mixture, the enantiomer of (**X**) shown is solely responsible for the beneficial pharmacological action (smooth muscle relaxation).



What is the molecular formula of (**X**)?

List the substituents attached to the stereogenic centre in descending order of priority according to the sequence rules.

highest priority

lowest priority

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What is the absolute stereochemistry of (**X**)? Write (*R*) or (*S*).

Name the functional groups, highlighted by the boxes **a** and **b** present in (**X**).

<b>a</b> =	<b>b</b> =
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Give the constitutional formula of the product formed when (**X**) is treated with cold dilute sodium hydroxide solution.